

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The final Office Action dated March 21, 2005 has been received and its contents carefully reviewed.

By this Response, claims 29, 31, 33-35, 37, 40, 42 and 44-45 have been amended, and claims 30, 32, 39 and 41 have been cancelled without prejudice or disclaimer of the subject matter recited therein. No new matter has been added. Claims 29, 31, 33-38, 40 and 42-47 are pending in the application with claim 47 being withdrawn from consideration. Reconsideration and withdrawal of the rejections in view of the above amendments and the following remarks are respectfully requested.

In the Office Action, claims 29-33 and 37-42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,351,300, issued to Park et al. (hereafter "Park") in view of U.S. Patent No. 6,014,190, issued to Kim et al. (hereafter "Kim") and further in view of U.S. Patent No. 6,122,030, issued to Nagata et al. (hereafter "Nagata"). Applicant respectfully traverses the rejection because neither Park, Kim nor Nagata, analyzed alone or in any combination, teaches or suggests the combined features recited in the claims of the present application. In particular, Park, Kim and Nagata fail to teach or suggest an in-plane switching liquid crystal display device having among other features, "transparent pixel electrodes on the second insulating layer; transparent common electrodes on the second insulating layer,... and auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through a contact hole in the second insulating layer" as recited in independent claim 29 of the present application.

Park, Kim and Nagata further fail to teach or suggest a method of fabricating an in-plane switching liquid crystal display device that includes, among other features, "depositing and patterning a conductive material on the second insulating layer to form transparent pixel electrodes and transparent common electrode on the second insulating layer, ... forming an auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through the contact hole" as recited in independent claim 37 of the present application.

The Office Action concedes that Park does not “explicitly specify the outermost electrode and the data bus line are on different layer and wherein a portion of the outermost counter electrode overlaps the data bus line” (see, page 3 of the Office Action), and Park further fails to teach “the second insulating layer is made of an organic material” (see, page 4 of the Office Action). To remedy these deficient teachings of Park, the Office Action relies upon the teachings of Kim and Nagata.

Applicant respectfully submits neither Kim nor Nagata remedy the deficient teachings of Park. In particular, Kim discloses an IPS liquid crystal display in which “each pixel has two longitudinal common electrodes 121 overlapped with the data line 130, four longitudinal pixel electrodes 140 arranged between the common electrodes 140 arranged between the common electrodes 121, and two two-channel TFTs” (col. 4, lines 62-65). Nagata discloses a twisted nematic (TN) mode liquid crystal display in which “an organic polymer thin film such as acrylic resin is used as the insulating film” (Col. 2, lines 6-8).

However, neither Kim nor Nagata teach “transparent pixel electrodes on the second insulating layer; transparent common electrodes on the second insulating layer,... and auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through a contact hole in the second insulating layer” as recited in independent claim 29 of the present application. Kim and Nagata further fail to teach “depositing and patterning a conductive material on the second insulating layer to form transparent pixel electrodes and transparent common electrode on the second insulating layer, ... forming an auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through the contact hole”, as recited in independent claim 37 of the present application.

Because Kim and Nagata fail to teach at least these features of independent claims 29 and 37, Kim and Nagata fail to remedy the deficient teachings of Park. Further, even if one of ordinary skill in the art modified the teachings of Park by the teachings of Kim and Nagata, which Applicant does not concede there is proper motivation to do, the resulting device and method would fail to provide the combined features recited in the claims of the present application. Accordingly, claim 29 and its dependent claims 30 and 33, and claim 37 and its

dependent claims 38, 40 and 42 are allowable over any combination of Park, Kim and Nagata. Reconsideration and withdrawal of the rejection are respectfully requested.

In the Office Action, claims 34 and 43-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Park in view of Kim and Nagata, and further in view of U.S. Patent No. 6,486,933, issued to Cha et al. (hereafter “Cha”); claims 35 and 45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Park in view of Kim and Nagata, and further in view of U.S. Patent No. 6,414,729, issued to Akiyama et al. (hereafter “Akiyama”); and claims 36 and 46 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Park in view of Kim and Nagata, and further in view of U.S. Patent No. 5,680,190, issued to Michibayashi et al. (hereafter “Michibayashi”). Applicant respectfully traverses the rejections of these dependent claims because neither Park, Kim, Nagata, Cha, Akiyama nor Michibayashi, analyzed alone or in any combination, teaches or suggests the combined features recited in the claims of the present application. In particular, Park, Kim, Nagata, Cha, Akiyama and Michibayashi fail to teach or suggest an in-plane switching liquid crystal display device that includes “transparent pixel electrodes on the second insulating layer; transparent common electrodes on the second insulating layer,... and auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through a contact hole in the second insulating layer” as recited in independent claim 29 of the present application, from which claims 34-36 depend.

Park, Kim, Nagata, Cha, Akiyama and Michibayashi also fail to teach or suggest a method of fabricating an in-plane switching liquid crystal display device that includes “depositing and patterning a conductive material on the second insulating layer to form transparent pixel electrodes and transparent common electrode on the second insulating layer, ... forming an auxiliary pixel electrode on the second insulating layer and connected to the drain electrode through the contact hole” as recited in independent claim 37 of the present application, from which claims 43-46 depend.

Cha discloses a liquid crystal display in which “an insulating film covers the ...common electrodes. A second common electrode is formed on the insulating film and arranged parallel to the data lines” (see, Abstract and FIG. 7). Akiyama discloses a “liquid crystal display device including a plurality of pixel electrodes and a plurality of liquid crystal

layers stacked alternately” (Abstract). And, Michibayashi discloses a method for a twisted nematic (TN) LCD in which a double-layered pixel electrode structure is used to enlarge the viewing angle (col. 1, lines 41-53).

However, Applicant respectfully submits neither Cha, Akiyama nor Michibayashi remedy the deficient teachings of Park, Kim and Nagata. Specifically, neither Cha, Akiyama nor Michibayashi teach at least the above allowable features of independent claims 29 and 37 of the present application. Because Cha, Akiyama and Michibayashi fail to teach at least the features of claims 29 and 37, no combination of Park, Kim, Nagata, Cha and Michibayashi would provide a device and method having the combined features recited in independent claims 29 and 37 of the present application. Accordingly, claim 29 and its dependent claims 34-36, and claim 37 and its dependent claims 43-46 are allowable over Park, Kim, Nagata, Cha, Akiyama and Michibayashi. Reconsideration and withdrawal of the rejections are respectfully requested.

Applicants believe the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

Application No.: 10/651,104
Amendment Dated: June 21, 2005
Reply to Office Action dated March 21, 2005

Docket No.:8733.432.20

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

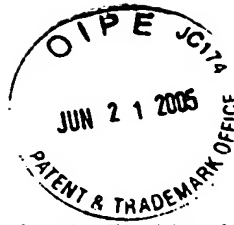
Dated: June 21, 2005

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